

MONITORING

**Modernization of Sewage Lift Stations
with Remote Monitoring**

APPLICATION: Municipal Sewage Lift Stations

LOCATION: Whitefield, NH

COMMENCED: December 2021

TECHNOLOGY: H₂O Monitoring

CONTACT DETAILS:

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BACKGROUND

The four lift stations in the Town of Whitefield, NH, had no remote monitoring capabilities. As a result, the Town was incurring significant costs related to manpower, since daily checks of these facilities were necessary to inspect the lift stations and prevent overflows. After a thorough facility evaluation process, H₂O Innovation proposed to modernize the lift stations by providing our H₂O monitoring technology and operator interface to the Town.

SOLUTION

In each of the four lift stations, the sensors are connected to a cloud-based server, to which they transmit information through radio signals and gateways. The sensors allow the Whitefield operators to monitor water depth, temperature, motor run time, and pump start/stop cycles. Each of the gateways located at the lift stations share information with the cloud using SIM cards. In a different topography, we could also have the various water depth sensors communicate to each other with a mesh radio signal network. In the future, additional monitoring parameters such as flows, remote control, amperage readings, and pressure monitoring could be incorporated to the network for the lift stations that have flow monitoring equipment.

RESULTS

Within an hour of the sensor installation, a short-circuiting pump was discovered (as seen on the graph below). The operators were able to act promptly and fix the problem thanks to the new system, without which the malfunctioning pump might have been found much later. As such, the monitoring system prevented other potentially major problems, thereby saving the Town valuable time, money, and efforts.

All four of the lift stations were commissioned in December 2021 and have been reporting information to the cloud successfully. The app is very detailed and allows the opera-



tor to conduct remote checks of the lift stations on a daily basis. The app also allows the operator to see only one hour, one day, or one week's worth of information. In the alarm management page, the operators can now create recipient groups, as well as different profiles and schedules for each group of alarm response. They can also set up a chain of call-outs (SMS, voice calls, or emails) with snooze options.